

Serial No. 10/613,579
Group Art Unit: 3725

REMARKS

Originally filed claims 1-17 are cancelled herein and replaced with new claims 18-24. In this regard, new independent claim 18 contains substantially all of the subject matter of original independent claim 9 but further limits the claimed structural arrangement by the inclusion of the specific structural arrangements of the first and second sizing ring members recited with specificity in subparagraphs c), d) and h). As will be discussed later, none of the cited prior art references of record teach, either individually or in combination with each other, any tumbler apparatus that is arranged for the discharge of finish tumbled product by size groupings.

The new claim 19 further limits and defines the structural arrangement of claim 18 to the ring member configuration specifically disclosed and illustrated in the present application wherein the first sizing ring member, having smaller diameter product sizing openings therethrough, is arranged to encircle the second sizing ring member 34 which has a greater length and product sizing openings having a greater diameter than the diameter of the product sizing openings of the first ring member. Clearly, no tumbler apparatus having any such particular structural requirements is remotely suggested or contemplated in the prior art of record.

Serial No. 10/613,579
Group Art Unit: 3725

New claim 20 identifies the loading means of claim 18 as including a feed conveyor supported on the base frame for longitudinal movement of the outfeed end of the conveyor into registry with the interior of said of the hollow ring members and central opening of the drum for loading raw material into the drum cavity.

New claim 21 adds a feed hopper to the tumbling apparatus of claim 20 for communication with the feed conveyor recited specifically in claim 20.

Clams 22 and 23 further limit the tumbling apparatus of claims 21 and 18 respectively by identifying the base frame as being configured as a mobile transport vehicle for mobility, as is apparent.

Finally claim 24 recites the end wall arrangement shown at 36 in Fig. 3 and disclosed in the application on page 7, line 20 to page 8, line 6 and on page 11, lines 3-8. No reference of record teaches any tumbling apparatus arrangement provided with structure for retaining a portion of the liquids, fines and abrasive materials used in the tumbling operations in the tumbling drum against discharge for reuse in subsequent tumbling operations with new raw product material as is provided for in new claim 24.

With regard now to the primary reference Greist, Greist provides a tumbling apparatus arranged specifically and solely to sift or separate the tumbling abrasives ("tumbling material") from the tumbled stone product ("tumbled articles") prior to discharge of the finished product out of the tumbling apparatus as a complete load.

Serial No. 10/613,579
Group Art Unit: 3725

In essence, Greist teaches a tumbling arrangement provided for cleaning the stone product prior to its discharge from the apparatus. In this Greist specifically identifies at col. 1, lines 14-26:

"... and the invention has for its object to provide tumbling barrels, of the class referred to, with screen sections at their outer ends so that when a tumbling operation is completed the barrel may be tilted over and rotated, while in such position, for the purpose of sifting out the material in which the articles to be cleaned or polished have been tumbled, and when such sifting has been effected the cover of the barrel may be removed and the tumbled articles dumped out in a clean condition or free of the tumbling material." (underlining for emphasis)

Also, in col. 2, lines 84-94:

"But when a tumbling operation is completed and it is desired to sift out the tumbling material from the work or articles tumbled therein the barrel will be tilted to the downwardly inclined position shown in Fig. 1, and will then be rotated in such position until the sifting operation has been completed when the cover may be removed and the work or articles tumbled then be dumped into any suitable box or receptacle." (underlining for emphasis)

Accordingly, Greist clearly and specifically identifies a tumbling apparatus arranged specifically to separate the finished, tumbled articles from the tumbling

Serial No. 10/613,579
Group Art Unit: 3725

material in which the articles were tumbled. The provision of sand, abrasive fines, polishing compounds, etc. to articles being tumbled is a well-known, long established standard in the industry, and it is specifically this standard practice that the Greist tumbling apparatus is specifically directed.

Moreover, Greist teaches that once all of the tumbling material has been sifted from the finished tumbled product, the entire load of finished, tumbled product is dumped out of the tumbling apparatus en masse and irrespective of size. There is clearly no attempt or consideration whatsoever of any form of sizing or sorting of finished tumbled product whatsoever in the Greist teachings. Rather, it is strictly for the separation of dissimilar materials.

Nonetheless, as discussed earlier, the new independent claim 18, and hence all remaining dependent claims, now identify and recite applicant's first and second sizing ring members and their particular arrangement identified in subparagraph h) for discharging finish product specifically by size range to a first, smallest, second, intermediate and third, largest size discharge locations as clearly illustrated in Fig. 3. These new and specific structural limitations now recited in the new claims clearly distinguish the claimed invention patentably over the reference Greist.

With regard to the reference Branscome used in the rejections as a

Serial No. 10/613,579
Group Art Unit: 3725

secondary reference for modifying the teachings of Greist, Branscome teaches a concrete cyclone reclaimer arranged to receive liquid concrete slurry and separate it into its three constituent components, those components being cement slurry, sand and gravel. In this regard, Branscome provides a rotating drum into which liquid concrete is delivered and, along with an excess of additional water, rotated until the cement slurry component floats to the top of the material and overflows through a discharge pipe 24 in the front elevated end of the drum. The remaining mixture being rotated in the drum, a conglomeration of sand and gravel materials, is moved out of the rear end of the rotating drum whereupon it passes over a screen arranged to permit the sand slurry component to pass therethrough to a discharge location, the gravel component of the concrete mixture then moving over the screen and out of the rear end of the drum to a gravel discharge location.

Thus, it is readily apparent that the Branscome reclaimer apparatus, just like the Greist apparatus, provides and teaches a structural arrangement for the separation of different materials from one another and not the sizing or sorting of a single tumbled product according to size. Indeed, the Branscome sand slurry sifting screen arrangement is for all intents and purposes structurally and functionally identical to the basic teachings and screen structure of Greist, and therefore it is submitted that the reference Branscome does not serve to assist the primary

Serial No. 10/613,579
Group Art Unit: 3725

reference Greist in overcoming its failure to suggest or render obvious the applicant's tumbling apparatus as now very specifically recited in new claims 18-24.

From the foregoing and particularly in view of the new and specific limitations clearly recited in new claims 18-24, it is believed that the Examiner will agree that the tumbling apparatus as now claimed clearly requires and is limited to a tumbling apparatus having the specifically recited first and second ring member structures (32, 34) unique to applicant's structural teachings and intended purpose and which clearly distinguish the claimed invention over the teachings and structural and operational capabilities of the prior art.

Finally, with regard to the remaining prior art references applied in the Office action, since neither reference Greist or Branscome can, either individually or in combination, anticipate or render obvious the specific structural arrangements of the tumbler apparatus as now specifically recited in new claims 18-24, and since none of the references O'Brien, et al., Sutton nor Suverkrop teach any product sizing arrangement whatsoever, clearly the additional references cannot assist the references Greist or Branscome to meet or suggest the now required structural limitations of the pending claims.

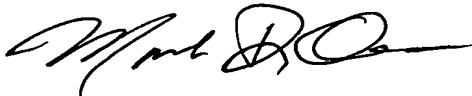
Accordingly, it is believed that new claims 18-24 clearly and unmistakably distinguish the applicant's claimed tumbler apparatus patentably over the prior art of record, and are now in proper condition for allowance. Therefore,

Serial No. 10/613,579
Group Art Unit: 3725

reconsideration and allowance of new claims 18-24 is respectfully solicited.


Respectfully submitted,

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